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EXAMINER

RAMDHANIE, BOBBY

ART UNIT

PAPER NUMBER

1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/769,220	Applicant(s) FEYGIN, ILYA	
	Examiner BOBBY RAMDHANIE	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Response to Amendment

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 8 & 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Raskas (US6157442). Regarding Claim 8, Raskas teaches a method comprising: physically engaging a chemical entity to a first end of an IR-transmitting fiber; bringing said chemical entity in contact with a binding compound; and conducting a thermal signal resulting from a binding interaction to a thermal sensor through said IR-transmitting fiber, wherein said binding interaction occurs between said chemical entity and said binding compound (Abstract). Examiner takes the position that the change in wavelength defines a thermal signal.

3. For Claim 10, Raskas teaches the method of claim 8 wherein engaging a chemical entity further comprises inserting said first end of said IR-transmitting fiber into a sample carrier (Abstract). Examiner takes the position that a person may define a sample carrier.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1 & 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al (US5814524) in view of Narayannan (US5980120) and Raskas (US6157442). Regarding Claim 1, Walt et al teaches an apparatus comprising: a plurality of optical fibers (Abstract & Column 5 lines 5-13), wherein: said optical fibers each having a first end and a second end; said fibers are capable of transmitting infrared radiation ("IR") (Column 1 lines 62-67); and a sensor for sensing IR, wherein said sensor is in IR-sensing contact with said first end of each of said optical fibers (Column 1 lines 56-58). Walt et al does not teach a separator, wherein said separator engages said plurality of fibers and is suitable for spatially separating said optical fibers from one another in a pattern that enables said optical fibers to physically engage (Abstract) individual samples on a sample plate or that the end of the optical fiber physically engages the

sample. Narayannan teaches a separator engages a plurality of fibers and is suitable for spatially separating said optical fibers from one another in a pattern that enables said optical fibers to physically engage individual samples on a sample plate (Column 6 lines 50-56). Raskas teaches a sensor apparatus comprising: an optical fiber, wherein: the optical fiber having a first end and a second end; said fiber is capable of transmitting infrared radiation ("IR"); a sensor for sensing IR, wherein said sensor is in IR-sensing contact with said first end of each of said optical fibers; and said optical fiber physically engages individual samples (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Walt et al with Narayannan and Raskas because this would allow direct contact with the sample and allow for more than one wavelength to be measured independently of one another. Examiner takes the position that this is an intended use claim. The recitation of intended use for the sensor, the separator, and optical fibers does not give weight to the patentability of the claimed apparatus. The structural limitations of the apparatus are taught by the combination of the references. Motivation to combine the references comes also comes from the common knowledge that without direct contact of the optical fiber with the sample, light from the external environment would poorly influence the image collected at a far field position.

4. Alternatively, Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al (US5814524), Raskas (US6157442), and in further view of Saito (US5625737). Regarding Claim 1, Walt et al in combination with Raskas teaches all of the claim limitations according to Claim 1 except a separator. Saito et al teaches a

separator for sliding along optical fiber cables (Abstract & Figures 7A-C). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Walt et al and Raskas with Saito because according to Saito using this separator reduced the chances of the fibers becoming bent, broken, and/or having signal lost (Abstract).

5. For Claim 3, Walt et al in combination with Narayannan and Raskas, teaches all of the claim limitations of Claim 1. Walt et al further teaches the apparatus of Claim 1 wherein said second end of said optical fibers are physically adapted to receive a first chemical entity (Abstract). Examiner takes the position that this is an intended use claim. The structural limitations of the claim are taught by the combination of references. In addition, Raskas further teaches the end of the optical fiber is physically adapted to receive a first chemical entity (Abstract).

6. For Claim 4, Walt et al in combination with Narayannan and Raskas, teaches all of the claim limitations of Claim 3. Walt et al further teaches the apparatus of Claim 3 wherein said individual samples comprise said first chemical entity (Column 16 lines 22-29). In addition, Raskas teaches the individual samples comprise said first chemical entity (Column 1 line 25).

7. For Claim 5, Walt et al in combination with Narayannan and Raskas, teaches all of the claim limitations of Claim 1. Walt et al further teaches the apparatus of Claim 1 further comprising a surface having a binding compound disposed thereon (Column 16 lines 42-58). In addition, Raskas teaches a surface having a binding compound disposed thereon (Column 1 line 65 to Column 2 lines 18).

8. For Claim 6, Walt et al in combination with Narayannan and Raskas teaches all of the claim limitations of Claim 1. Walt et al further teaches the apparatus wherein said first end of said optical fibers are physically coupled to said sensor (Figure 9); Narayannan further teaches the apparatus of Claim 1 wherein said first end of said optical fibers are physically coupled to said sensor (Column 6 lines 50-56); and Raskas teaches said optical fibers are physically coupled to said sensor (Figure 5).

9. For Claim 7, Walt et al in combination with Narayannan and Raskas teaches all of the claim limitations of Claim 1. The combination of Walt et al, Narayannan and Raskas teaches the separator is engaged to said plurality of fibers such that it can slide along said plurality of fibers. Examiner takes the position that this is an intended use claim. The patentability of the claim is dependent on the structural limitations of the claim, not its intended use. Further, Examiner takes the position that the separator of Narayanan et al is an obvious variant of a separator which would have the function of sliding along the optical fibers.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al, Narayannan, and Raskas, and in further view of Orban (US3368247). Regarding Claim 2, Walt et al in combination with Narayannan and Raskas teaches all of the claim limitations of Claim 1. Walt et al in combination with Narayannan and Raskas does not teach Claim 1 further comprising a collar for bundling said optical fibers. Orban teaches this feature (Figures 1-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Walt et al and Narayanan and Raskas with Orban because according to Orban, this cable tie can be used for tying together a

plurality insulated conductors (Column 1 lines 30-36). Examiner takes the position that optical fibers define insulated conductors.

11. Claims 9 & 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al in view of Saito (US5625737). Regarding Claim 9, Walt et al teaches all of the claim limitations according to Claim 8. Walt et al does not teach sliding a separator along said IR-transmitting fiber. Saito et al teaches a separator for sliding along optical fiber cables (Abstract & Figures 7A-C). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Walt et al with Saito because according to Saito using this separator reduced the chances of the fibers becoming bent, broken, and/or having signal lost (Abstract).

12. For Claim 12, Walt et al teaches a method comprising: conducting a thermal signal through at least one of said IR-transmitting fibers (Column 5 lines 5-44 & Column 3 lines 56-66). Walt et al does not teach a separator. Saito teaches positioning a movable separator along a plurality of IR-transmitting fibers to obtain a desired spacing between adjacent IR-transmitting fibers at a sampling end thereof (Abstract & Figures 7A-C). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Walt et al with Saito because according to Saito using this separator reduced the chances of the fibers becoming bent, broken, and/or having signal lost (Abstract).

13. For Claim 13, Walt et al in combination with Saito teaches the method of Claim 12. Walt et al further teaches the method further comprising engaging a chemical entity to said sampling end of said IR-transmitting fibers (Figure 9).

14. Alternatively, Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al and Saito, and in further view of Raskas. Regarding Claim 13, Walt et al in combination with Saito teaches the method of Claim 12 except for sampling using an optical fiber without a GRIN lens attached to the end of the fiber. Raskas teaches this feature (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Walt et al and Saito with Raskas because this allow one to determine whether or not a GRIN lens is needed to detect changes in the samples of Walt et al or to determine if far field viewing would be better than direct contact of the optical fiber with the sample.

15. For Claim 14, Walt et al in combination with Saito teaches the method of claim 13 further comprising bringing said chemical entity into contact with a binding compound (Column 16; lines 22-29 & lines 42-58).

16. For Claim 15, Walt et al in combination with Saito teaches the method of claim 12 wherein conducting a thermal signal (Column 1 lines 56-58 & Column 3 line 50-56) further comprises conducting said thermal signal to a thermal sensor (Figure 8).

17. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raskas. Regarding Claim 11, Raskas teaches the method of claim 8 wherein bringing said chemical entity in contact with a binding compound. Raskas does not teach inserting said first end of said IR-transmitting fiber into a well after engaging said chemical entity. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method to include this step because this would allow for other compounds in the blood to be tested for.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BOBBY RAMDHANIE whose telephone number is (571)270-3240. The examiner can normally be reached on Mon-Fri 8-5 (Alt Fri off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bobby Ramdhanie, Ph.D./
Examiner, Art Unit 1797
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